The Study of Individual Children

A System of Records, including a Complete Child History, Medical Examinations, Physic-psychological and Mental Tests, Daily Regimen and Disease Record, also Case Diagnosis, Classification, etc.

Suggested by

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Foreword

The tests herewith submitted have been the result of many years of practical observation and experiment. In their original form, they date back to the early years of what was then known as "The Groszmann School for Nervous and Atypical Children," which was founded by the author in 1900. Since then, there has been constant care taken to revise and elaborate them.

Even as they are now published, these tests are tentative and experimental. A more definite system can be established only after trying out these suggestions, in comparison with other methods, with a large number of children. Even the tests presented by the French psychologist Binet, which have in recent years made such a stir in this country, have been discovered to need many revisions to suit the conditions of American children, and their usefulness is limited at best.

The system of tests here introduced has been the means by which we have kept records of a number of pupils in the "Groszmann School," now "Herbart Hall," first at "Comenius Grove" in Virginia, where the institution was founded in 1900; then in New York, and during the past eight or nine years in Plainfield, New Jersey. They have been in part compiled from previous work of a similar kind, such as is done in physiological and pathological clinics and in psychological laboratories. In the first crude formulation of the Child History blank, suggestions were utilized from a question sheet used by Johannes Trüper, director of an institution for what he calls "psychopathische Minderwerthigkeiten," at Sophienhöhe, near Jena. But all selections and suggestions have been carefully adapted to the present purpose, and have been very much amplified by a considerable amount of original material. And then they have been graded as well as our present knowledge of child nature will allow. The plan and arrangement are entirely original with the author.

The main purpose of these tests and records is to establish, as far as possible, firstly, a diagnosis of a child's status at the time he first comes under observation; secondly, by repeated testing, to furnish a measuring scale for the child's

ability to grow, to develop, to expand; so that the distinction between normal, accelerated, retarded and arrested growth may be more safely made. In fact, they may serve to secure a more accurate basis for determining what normal development is, and to circumscribe its content.

In the actual work of "Herbart Hall" the arrangement is that before a pupil is accepted the parents are requested to fill out the "Child History" blank, eventually with the help of their family or consulting physician. On the basis of these answers it is decided whether or not the child appears to be a suitable pupil. It must be noticed that the work of this Institute is not for mentally defective or feeble-minded children, but for what the author has called "atypical" cases. Children presenting symptoms so puzzling that more time will be needed for making even an approximate diagnosis, are temporarily accepted into the "Observation Clinic" of the "National Association for the Study and Education of Exceptional Children" by which the entire work is maintained. The attached Tentative Classification of Exceptional Children will better explain the author's point of view in grading degrees and kinds of exceptional development.

As soon as a child is accepted, he is given a complete Body Measurement such as Schedule II shows. The blanks provide for twelve such measurements, and are intended to cover an entire calendar year, the measurements to be taken monthly. Together with these measurements other general observations of the body of the child are made and recorded, such as general nutrition and response, motor co-ordination in climbing a chair, condition of feet, etc.. It is necessary that the children be measured without clothes.

Upon entering, the child is given a medical examination by the visiting school physician whose work is often supplemented by specialists (neurologists, ophthalmologists, ear, nose and throat specialists, dentists, etc.), so as to obtain a cross-section of the child's physical condition. The blank used for this purpose is introduced as Schedule III. The examination is repeated twice in the same year.

In cases where a complete and detailed description of a child is desirable, that is to say, whenever the case presents confusing elements or indicates that there are deeper causes of difficulty, and when the difficulty is particularly serious, Schedule IV is used. It is evident that only specialists can make these tests or records. It seems therefore unnecessary to go into a detailed explanation of these records which would be unintelligible to the non-medical reader who will have to rely upon the deductions made by the physicians. It may,

however, be said that the form of the skull is measured with a band of lead which yields easily to the bending and stays in form so that a pencil tracing can be made. The Rotch wrist tests are recorded in view of the fact that they reveal physiological age, as does the development of pubic hair. Some of the simpler tests here mentioned are also included in the Groszmann tests proper as recorded in Schedule VII.

The Herbart Hall records contain further almost daily reports from teachers and nurses upon the mental and physical condition of the child as he is under observation in his daily routine, his life habits, his school work, occupation and play. No special form is used for this purpose, except as to the use of different-colored cards for the child's card record. Special account is kept of the child's bowel movements and, in the case of an adolescent girl, of her menstrual periods.

The Child's Regimen and Diet are carefully regulated on the basis of all these findings. The blank reproduced as Schedule V is used for this purpose. Here are recorded the regular bath schedule of the child, his diet, his medication and general tonic treatment, whether he is to wear glasses, or insoles, and a number of other things for the guidance of the nurses and caretakers. Tally cards are given out to these, but the main record is kept in the director's office. The blank shows how minute this record is.

Schedule VI shows the record of diseases the child may contract during his stay under the Institute's observation.

Under Schedule VII, the author presents his Measuring Scale of Mentality which should be applied to each individual pupil at least once a year, to ascertain not only his status at the time of first examination, but his ability or inability to grow, and the rate of such growth.

Schedule VIII is intended to serve as a record of the final analysis and classification of each case. In this, the pedagogical research worker must co-operate once more, in a summing up process, with the various specialists who have made the partial examinations and observations recorded before.

It is evident that the complete system of these records cannot be carried out without the co-operation of a number of observers, combining parental, medical and educational data. The system here presented is exhaustive, and presupposes, among other things, the necessary opportunities and the necessary measure of time. It may not be possible to secure all the data or make all the tests and examinations in a given case. The observer may have to use his discretion, to adjust himself to his opportunity. But he will find here

at least an organized whole from which he may select the essential parts if he cannot do everything that may seem desirable. The principles underlying this schedule will guide him in his selection.

And the time may come when each child will be as carefully observed as the breeder of horses or chickens observes his brood; when there will be a science of education, a science of parenthood, a science of teaching; when it will not be considered stupendous and preposterous to give each child such minute care and study as will establish his full status.

Schedule 1

Child History

The set of questions here presented is perhaps the fullest ever presented anywhere. The significance of some of the answers will be better understood by the observer in the light of the principles upon which the Physio-psychological and Mental Tests are based which are suggested by the author under Schedule VII.

In not a few cases it will be found difficult to obtain complete and accurate answers from the parents. Sometimes this is due to ignorance on their part of the meaning of the questions. These will therefore have to be carefully explained. Often desirable data cannot be obtained because the parents have forgotten details, dates, etc. For not very many parents keep records of their children's development and history; and even educated persons have difficulty in keeping family records that contain more than names and dates. Then, parents may be reticent to reveal family difficulties and items in their own history of which they are, more or less justifiably, ashamed. This is particularly the case with data concerning nervous, mental and venereal diseases. Unless the confidence of the parents and the co-operation of the family physician are secured the record will forever be incomplete. Yet, as much depends upon establishing hereditary, congenital, and early environmental influences, no effort should be spared to record as many facts as possible.

The questions and their significance require little explanation. Blood relationship of the parents has often been blamed for hereditary burdens of the children; but it seems that the blame is justified only when both parents are themselves heavily burdened with undesirable characteristics. The age of parents at the birth of the child is also considered an important factor by some; and altho I am inclined to think that this factor is overestimated and that much depends upon the individual vitality of the parents, whatever the age may be, the statement is included in the record so that data may be collected.

The condition of the mother during pregnancy, and the

relation of stillbirths, miscarriages, intermissions between the births of different children, etc., throw much light upon the origin of difficulties. It should also be ascertained whether or not the mother has tried to prevent the birth of a child, as children born against the will of their parents are usually heavily burdened.

A child ought to smile not later than at the age of 3 months; sit up at 4 to 6 months of age; stand up at one year and begin to walk and talk a little later. Whooping cough at a tender age frequently injures a child's chances; neurotic babies are subject to convulsions as well as to thumb-sucking. A square stubby hand is a low sign. Infectious diseases often leave their traces behind. Anesthesia over a great part of the body is often a sign of low mental grade.

The following extract from the author's paper on "Danger Signals in Young Children" (Volume of Proceedings, National Education Association, Boston, Mass., July, 1910), may be helpful:

"Apparent disinclination to obey may be due to imperfect hearing; aversion to reading and writing, to imperfect vision. Ugliness and irritability may be caused by astigmatism which in turn produces eye-strain and persistent headaches. Laziness may be a symptom of anemia or neurasthenia, or it may be caused by malnutrition, overexertion at home, lack of sleep, or of ventilation in the child's sleeping-chamber. Fretfulness may have its cause in a great number of various conditions, notably indigestion. Educators are oftentimes inclined to feel very much vexed when a child makes grimaces, is inclined to giggle and babble, and to disturb the artificial discipline of the schoolroom by whispering. And yet these manifestations, as well as others, like sniffing, coughing, restlessness, and inattention, may be, and almost always are, symptoms of nervous disease. They may be enumerated among the so-called habit tics or habit spasms, like twitching, shrugging, shuffling, grinning, sighing, yawning, echolalia (the repetition of words spoken by another, as for instance repeating a question before answering it), uttering curious sounds such as chirping, etc. Again, momentary inattention and absent-mindedness may be due to a mild form of petit mal, i. e., epilepsy. Sudden attacks of excitement, outbreaks of temper, destructiveness, hitting other children, and the like, suggest the presence of psychic epilepsy. Then there are the manifold movements characteristic of chorea; and while true hysteria is a disease which does not develop before the adolescent age, there are quite a number of conditions in children which may be counted among hysterical

symptoms. An emotional temperament is one of them, and the instability of will and irresponsibility, another. These symptoms are very often found in young girls who seem to be predestined to develop true hysteria unless preventive measures are taken at the right time. It has been observed by many that an exaggerated imagination and selfishness, or rather self-centeredness, go with these symptoms; and that deviations from the truth and often surprising fabrications are characteristics of this condition. Children's lies are a chapter in themselves. Books have been written on the child as a witness, showing how unreliable are the statements of children, even of those who are usually considered truthful. Stubbornness and disobedience, qualities which are usually judged in the sense of disciplinary conditions, may reveal themselves to the careful observer as danger-signals indicating disease of some kind. . . . .

"Defective teeth are invariably a danger-signal. They may prove the existence of various functional diseases, hereditary or acquired, which prevent their proper formation and growth; or they may point to malnutrition and other temporary causes. In every instance, defective teeth interfere with the proper mastication and digestion of food; with the protection of the nasal-pharyngeal cavity; and with proper articulation. . . . .

"It has often been suggested that left-handedness is a danger-signal. It certainly indicates a deviation from typical conditions. Right-handedness is a very ancient characteristic of the human race and even primitive peoples are practically right-handed. Left-handedness is therefore not to be considered in the light of a primitive trait. As a matter of fact, left-handed individuals are found among the very intelligent and skillful; left-handedness is, then, not in itself a danger-signal unless it is coupled with other defects. It has been shown that the usual right-handedness may have one cause in the arrangement of the blood supply from the heart which favors the right arm; left-handedness would, therefore, mean a reversion of this arrangement.

"Another cause of the right-handedness of a great majority of men, however, is the stronger development of the left hemisphere of the brain. When, therefore, left-handedness is connected with speech-defects, as it often is, it would reinforce a diagnosis of defective central condition; for speech-defects, unless caused by anatomical defects in the organs of speech, can be explained only by under-development or lesion in the speech-centers of the left hemisphere. Speech defects are most pronouncedly danger-signals.

"Here we come to the large number of danger-signals in the development of the nervous system. And this is at the same time the province of psychological disorders. It must, however, again be stated that there is a constant interaction between bodily and psychic conditions, and that it is impossible to separate absolutely the psychical from the physical. Bodily symptoms will indicate psychic defects, and psychic symptoms will indicate disturbance of physiologic functions. Some of the danger-signals in this province are changes in temperament (crying or laughing readily) and unwarranted attacks of temper; rapid fatiguing and disinclination for effort; drowsiness; excitability; insomnia. Of the habit spasms I have already spoken. Then there are defects of memory and judgment as well as lack of determination and decision. A mechanical memory alone is not a sign of intelligence, and is found in remarkable development even among imbeciles. Precocity is another sign of eventual nervous strain and derangement. . . . .

"In determining growth periods there has recently been made the very helpful distinction between the chronological, anatomical, physiological, and psychological age of children. A boy of twelve in years is not necessarily a boy of twelve in development. Even if his anatomical growth be normal for his age, his physiological function or his psychological evolution may lag behind, so that he is actually only nine or ten years old. Or it may be the other way: he may be mentally normal or even precocious, and backward in weight and size. Any such discrepancy will cause a tension fraught with danger.

"Our first care must be therefore to discover whether or not the anatomical structure and the physiological function in a child correspond to the age standard. This will imply body measurements and a number of tests and observations, some of which may be made in the home and in the schoolroom while others require the co-operation of a physician.

"Child study, it will be remembered, implies the strictest co-operation of educator and physician."

National Association for the Study and Education of Exceptional Children

Child History

A. Name of person making report:
B. Date of report:

Etiological Statements

1. Name of child in full:
2. Date of birth of child:
3. Birthplace of child:
4. If foreign born, when did the child come to this country?
5. White or colored?
6. FATHER: a. Full name:
b. White or colored:
c. Address, business: Telephone:
" home: "
d. Occupation:
e. Date of birth:
f. Birthplace.
g. Living or dead?
If dead, state cause and time of death:
h. Married more than once? Is child born of first or any other marriage? State details:

i. Organic diseases he has had, including venereal:
j. Mental, brain and nervous diseases: (underline) Epilepsy, insanity, neuroses, striking personality, precocity, weak-mindedness, intemperance, crime, suicide, etc.
Use spare space for further description.

k. Temperament:
l. Additional information:

7. **MOTHER**: a. Full name before marriage:
b. White or colored:
c. Address, business: Telephone:
" home: "
d. Occupation: { a. Before marriage:
b. After marriage:
e. Date of birth:
f. Birthplace:
g. Living or dead?
If dead, state time and cause of death:
h. Married more than once? Is child born of first or any other marriage? State details:

i. Organic diseases she has had, including venereal:
j. Mental, brain and nervous diseases; (underline) Epilepsy, insanity, neuroses, striking personality, precocity, weakmindedness, intemperance, crime, suicide, etc.
Use spare space for further description.

k. Temperament:
l. Additional information:

8. Religious connections of parents: { Father:
Mother:
9. Are father and mother blood relations?
If so, how near?
10. Age of father at marriage: At birth of child:
Age of mother at marriage: At birth of child:
11. Was child born in marriage or out of marriage?
12. Give order of births of all children, marking the one whose history is given with *:

	Date:	Sex:	Living:	Cause of Death:	Still Birth:*	Miscarriage:
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

	Full Term:	Short Term:	Labor:	Physical condition of child	Mental condition of chil
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

*State cause if any is known. A still birth or mis carriage counts as a child.

13. State any further facts about the conditions unde which birth of child occurred:

14. Is there anything remarkable to report concernin the mother's pregnancy with the child? Sickness Violent emotional storms? Fear? Anxiety? Con vulsions? Etc.

15. PATERNAL GRANDPARENTS: Were they bloo relations?

GRANDFATHER:	GRANDMOTHER
a. Name:	a.
b. White or colored:	b.
c. Occupation:	c.
d. Date of birth?	d.
e. Birthplace:	e.

f. Living or dead: f.
Cause and time of death:
g. Organic diseases: g.
(See 6, i.)
h. Mental and nervous diseases: h.
(See 6, j.)
i. Temperament: i.
j. Additional information: j.

16. MATERNAL GRANDPARENTS: Were they blood relations?

GRANDFATHER:	GRANDMOTHER:
a. Name:	a.
b. White or colored:	b.
c. Occupation:	c.
d. Date of birth:	d.
e. Birthplace:	e.
f. Living or dead?	f.
Time and cause of death:	
g. Organic diseases:	g.
(See 6, i.)	
h. Mental and nervous diseases:	h.
(See 6, j.)	
i. Temperament:	i.
j. Additional information:	j.

17. Any information which can be given about
Uncles:
Aunts:
Other relatives:
Remoter ancestors:

Child's Own History

Physical

1. Was there deficient animation in the child at birth?
2. Had the child convulsions, fits, spasms or spells, soon after birth?
3. Was the child nursed?
By whom?
How long?
4. May any unfavorable influence have resulted therefrom, such as insufficient nourishment thru the mother, or the transmission of syphilis and other injuries, etc.? What medication was mother subjected to during nursing?
5. Or was the child bottle-fed?
State nature of feeding, time, etc.

6. How often was the child vaccinated?
   When?
   Did it take?
   Were changes noticeable after vaccination?
   When?
7. When did the child first smile?
8. When did the child first sit up?
9. When did the child first stand up?
10. When did the child learn to walk?
11. When did the child learn to talk?
12. How did language develop?
13. When did the nightly bed-wetting cease? Or does it still take place? Regularly or occasionally?
14. State whether and when child had affection of:

Lungs:	Stomach:	Heart:
Colon:	Liver:	Kidneys:
Thyroid Gland:	Appendix:	Bladder:
Genital Organs:	Other vital organs:	

   In each case, state time and nature of affection.
15. Give date of Measles: Whooping cough:
   Scarlet fever: Diphtheria:
   Varioloid: Smallpox:
   Cerebro-spinal meningitis: Typhus:
   Scrofula: Rickets:
   Ophthalmia: Infantile paralysis:
   Inflammation of bowels: Rupture:
   Neuralgia: Pneumonia:
   Hemorrhage: Rheumatism:
   Ear disease: Eye disease:
   Difficulties of nose and throat: Headaches:
   Fevers without apparent cause: Head eruptions:
   Fits and convulsions: Epilepsy:
   St. Vitus Dance (Chorea): Insanity:
   Inflammation of the brain:

In each case state character of affection, and whether any traces are left. Cross out what child has never suffered from.

16. When did child get first teeth?
   Was teething accompanied by illness, convulsions, loss of consciousness, etc.?
17. Have second teeth come?
   How many?
18. Has the child ever received, directly or indirectly, any injuries to the head, concussion of the brain,

etc.? Has he had any falls? If so, when, and what consequences followed them?

19. Has the child ever undergone any surgical operation? What kind? When? Name of surgeon: Consequences:

Description of Child

Physical Data

1. Height, without shoes or stockings:
2. Weight, without clothing:
3. Color of hair: Color of hair of father: mother:
4. Color of eyes: Color of eyes of father: mother:
5. Child resembles which parent or ancestor?
6. Describe any peculiarity in the form or size of the head:
7. Describe any peculiarity of the features:
8. Is the child a mouth breather?
9. Describe the present condition of teeth:
10. Does the child squint?
11. Has the build of the body any striking peculiarity? Neck: Thorax:
12. Does the skin show any peculiarity?
13. Have postures and gait any striking peculiarity? Does the child walk unsteadily?
    " " " " bent forward?
    " " " " with fully extended or with bended knees?
14. How does the child go up and down stairs?
15. Is the child deformed or crippled?
16. Are the hands normally constructed?
    Do they feel warm, or cold, or flaccid?
    Does the child grasp with the right hand?
    With the left hand?
    With both hands?
    Can child voluntarily spread and bend fingers?
    Can child eat alone?
    Can child drink alone?
    Can child dress completely?
    Can child undress completely?
    Are any weaknesses of the muscles of hands or fingers present?
17. Do noticeably peculiar movements appear? Of hands? Legs? Face? Muscles?
18. Are any of the child's limbs lame or stiff? If so, what is the reason?

Functions

1. Does the child masticate food properly?
2. Is digestion normal?
   Do digestive disturbances appear?
3. In the case of an adolescent girl:
   When did she begin to menstruate?
   Are there any difficulties of menstruation? Which?
4. Does child wet clothing? Bed?
   Does child soil clothing? Bed?
5. How does the child sleep?
   Does nightly awakening in alarm, or somnambulism, appear?
   Does child sleep with closed or open windows?
   Does child sleep in the dark or with light burning?
   Does child sleep alone in bed and room?
6. Are any disorders of sense apparent?
   Hardness of hearing? Short-sightedness?
   Far-sightedness? Astigmatism?
   Hyper-sensitiveness of skin?
   Dull sensibility to stimuli upon the skin, like those produced by warmth, cold impact, pressure, tickling, etc.?
   Deficient sense of taste?
   Deficient sense of smell?
   Deficient sense of touch?
   Deficient muscular sense?
   Deficient sense of balance?
   If there is hyper-sensitiveness of any of the sense organs, state so.
7. Are any disturbances of speech present?
   Stammering: Stuttering:
   Impetuous speech: Sluggish speech:
   Lisping: Indistinctness:
8. What kind of baths is the child accustomed to?
   At what frequency?
   Has there ever been any hydrotheraphy employed?

Moral Status

1. Is sexual excitement noticeable?
   Has there been sexual intercourse?
2. Has the act of self-abuse, or masturbation, been observed?
3. Does the child evince normal love for parents, brothers and sisters?
   Or does child care for them only to accomplish selfish ends?

4. Does child obey willingly?
   If not, how is disobedience shown?
5. What correction, if any, has been used at home?
   What was the result?
6. Is the child religiously inclined?
7. Has the child the feeling of reverence?
8. Is the child respectful?
9. Does the child show self-respect?
   Has the child the sense of modesty?
10. Has the child the sense of responsibility?
11. Has the child seriousness of purpose?
12. Does the child manifest any dangerous traits of character?
    Does the child tell falsehoods?
    Does the child deceive?
    Is child destructive?
    To furniture? To books? To anything else?
    Is child dangerous with fire?
    Is child cruel to animals? To other children?
13. Is the child inclined to run away from home, or school, or does he show nomadic tendencies in other ways?
14. Does the child offer any special difficulties to guidance in still other respects? If so, in what do they consist?

Peculiarities and Habits

1. Does the child show morbid conditions of fear?
   How are these conditions expressed?
2. Is the child of a gay, or of sober mood?
3. Is the child of a nervous temperament?
4. Does the child laugh or cry easily without cause?
5. Is the child easily affected by suggestion?
   Is he given to auto-suggestions?
   Has he created for himself imaginary companions?
   At what age? Describe:

6. Is the child sympathetic, or indifferent, or malignant, in the presence of others' pain?
7. Does the child like to nag others?

8. Does the child quarrel easily?
   Is he peaceable?
9. Is child communicative? Self-centered?
10. Is the child social? Retiring?
11. Is the child kind? Malicious?
12. Does the child appear capricious? Spiteful?
    Violent? Passionate?
    Under what circumstances?
13. Is the child lazy? Slow? Quiet?
    Lively? Restless? Excitable?
14. Is the child neat and clean in dress?
    In room?
15. How are the child's table manners?
    Does the child use knife and fork?
    Or spoon only?
    Does the child chew with open or closed lips?
    Is there preference for any food? Or drink?
    Is child gluttonous?
    Is there aversion for any food or drink?
    Does the child try to eat, or eat uneatable things?
    Does the child use tobacco? Intoxicants?
16. Has the child any other habits, capacities, peculiarities or fads? What are they?

Mental Status

1. Does the child possess some prominent gift?
2. Does the child appear to be ahead of other children of same age? If so, describe:
3. Has the child's development appeared to be behind that of other children of same age?
   If so, since when, and in what respects?
4. Has the child a good or a poor memory?
   Is it mechanical or logical?
5. How is the child's attention?
6. Can child concentrate, or is he scatter-brained?
7. Is the child's thought connected or disconnected?
8. Is the child's reaction short or long?
9. Has the child the ability to conceive clearly?
10. How is the child's power of imagination?
11. How is the child's power of imitation?
12. Has the child initiative?

13. Has the child creative ability?
14. Has the child the power of judgment and self-direction?
15. Is the child circumspect? Deliberate?
Reckless? Thoughtless?
16. Can the child freely and intelligently repeat any story?
What, for example?
17. Has the child already received instruction? Where, when, how long, from whom?
What of its success?
What school grade has he reached?
In what subjects of instruction does the child accomplish most?
In what subjects has there been the least success, and what was the probable cause?
18. Can the child read? How much?
What reader has be mastered?
19. Can the child write? How much?
Is there any peculiarity about the writing?
20. Can the child draw? Paint? Model?
Sew? Weave?
21. Can the child distinguish colors? What colors?
22. Does the child distinguish form? Give details?
23. What are the child's ideas of number?
Can he count? How many?
Can he add? Subtract?
Multiply? Divide?
Can he generally compute with certainty?
What books, if any, has he used?
24. What are the child's ideas of time?
Does the child know past, present and future?
Can he understand different lengths of time?
25. What is the child's idea of distance?
26. Can the child locate himself easily?
Can he find places?
27. Can the child run errands?
28. Is the child fond of music?
Can he carry a tune?
Does the child play an instrument?
29. Does the child like to busy himself, and self-actively. as in playing and learning?
30. With what does the child like best to busy himself?
31. Is the child skillful or helpless in practical occupations?
32. Can the child handle tools?

33. What can the child make?
34. Can the child do housework? What kind?
35. Can the child throw a ball?
    Can the child catch a ball?
36. Can the child tie and untie a knot?
37. For what does he show special interest and skill?

General

1. Are the exceptional symptoms continuous or periodic? In the latter case, at what intervals do they appear? And with what other symptoms are they connected? (e. g. digestion, menstruation, etc.)?

2. Can any special cause be assigned for the child's condition, such as:
   Errors of education?
   Long accustomed inactivity?
   Bodily or mental over-exertion?
   Violent emotional storms, fright, fear,, anxiety, etc.

3. What medical means have been applied heretofore to remove the atypical conditions? When, by whom, and with what success?

DIRECTIONS

Please answer these questions as fully and accurately as you can; if necessary, with the assistance of your family physician or consulting specialist.

Write as plainly as you can, so that there be no chance of misreading your answers.

All information given in reply to these questions, desirable and necessary as it is for a full understanding and diagnosis of the case, will be considered confidential.

It is requested to send photographs of the child at different stages of development. If parents wish these photos returned they are expected to permit the school to take copies for its record of the child's case.

Schedule 2

Body Measurements

The following table is intended for a record of body measurements. The best outfit for taking these is a physician's scale, a stadiometer or measuring rod for measuring height, a pair of chest depth calipers, a pair of chest breadth calipers, anthropometric tape (steel) and a spirometer.

The measurements should be taken over the unclothed body so as to allow accuracy and complete observation. Wherever that is impossible, only a minimum of clothing should be allowed, the weight of which can be easily deducted. Clothing is usually heavier than it is thought, and constitutes a source of considerable error. In measuring large numbers of children, this error may be minimized; but in following up the height and weight of an individual child, errors of a few pounds in weight or of an inch in height may obscure the oncoming of disease.

Again, it is best to measure the same child always at the same hour of the day. It has been shown that the weight of the body varies several pounds at different times during the day; that there is a daily rhythm, owing to the various metabolic conditions during the time of active life in contrast to rest periods. Observations seem to warrant the suggestion that the best time for obtaining a fairly stationary figure for weight is in the middle of the forenoon.

It is, furthermore, more important that the figures for height and weight should correspond than that a child be average in these measurements. In other words, a child may represent a smaller, or a larger, type without danger to his development. But if he should weigh less than the average boy of his age, yet his height be average or even above the average, or vice-versa, there is reason to investigate. Excessive or distinctly stunted growth is of course also abnormal. But it has been found that in general the larger and taller children are more successful than the smaller ones. Loss of weight is a danger signal.

Attention is again called to the tension which may be caused by discrepancies between the chronological, anatomi-

cal, physiological and psychological age of a child. Stunted growth and underdeveloped functioning, coupled with over-alert and precocious mentality (cf. the author's paper on "The Exceptionally Bright Child," Reprint from the Proceedings of the First Annual Conference on the Problem of the Exceptional Child, April, 1910), will predispose a child for a collapse. And there are children with precocious physical growth unaccompanied by corresponding mental development, often being decidedly backward intellectually. Absolute normal poise, when all the different aspects of human personality are well related, is comparatively rare.

The following tables, taken from Hastings' Manual of Physical Measurements, with the centimeters figured in inches and the kilos figured in pounds, will give the results of measurements of many children for comparison with the figures obtained for the individual child under observation.

HEIGHT AND WEIGHT MEASUREMENTS OF BOYS

From Hastings' Manual of Physical Measurements

	Age of 5				Age of 6			
	cm	in	kilo	lbs	cm	in	kilo	lbs
	112.00	44.01	21.02	46.24	116.00	45.58	21.92	48.22
	110.00	43.23	19.20	42.24	114.00	44.79	20.85	45.87
	108.00	42.44	18.84	41.44	112.00	44.01	19.89	43.75
	106.00	41.65	18.26	40.17	110.00	43.23	19.49	42.87
	104.00	40.87	17.50	38.50	108.00	42.44	19.02	41.84
	102.00	40.08	17.29	38.03	106.00	41.65	18.21	40.06
	100.00	39.30	16.31	35.88	104.00	40.87	17.82	39.20
	98.00	38.51	15.99	35.17	102.00	40.08	16.36	35.99
Mean:	105.78	41.75	17.86	39.29	110.67	43.49	19.37	42.61

	Age of 7				Age of 8			
	122.00	47.94	24.51	53.94	127.00	49.91	26.93	59.24
	120.00	47.15	22.78	50.12	125.00	49.12	24.64	54.20
	118.00	46.36	22.00	48.40	123.00	48.33	24.47	53.63
	116.00	45.58	21.50	47.31	121.00	47.54	23.74	52.22
	114.00	44.79	21.00	46.21	119.00	46.75	22.35	49.17
	112.00	44.01	19.48	42.86	117.00	45.97	21.77	47.89
	110.00	43.23	19.39	42.67	115.00	45.18	21.11	46.44
	108.00	42.44	18.38	40.45	113.00	44.40	19.72	43.38
Mean:	115.69	45.46	21.30	46.49	121.31	47.67	23.14	50.90

	Age of 9				Age of 10			
	cm	in	kilo	lbs	cm	in	kilo	lbs
	132.00	51.87	28.36	62.39	136.00	53.44	30.82	67.80
	130.00	51.08	27.26	59.97	134.00	52.65	29.15	64.13
	128.00	50.29	26.87	59.11	132.00	51.87	28.14	61.90
	126.00	49.51	25.54	56.18	130.00	51.08	27.53	60.56
	124.00	48.72	24.70	54.34	128.00	50.29	26.27	57.79
	122.00	47.94	24.07	52.95	126.00	49.51	25.78	56.71
	120.00	47.15	22.72	49.98	124.00	48.72	24.90	54.78
	118.00	46.36	21.49	47.27	122.00	47.94	24.01	52.82
Mean:	125.86	49.56	25.07	55.15	130.95	51.46	27.85	61.27

	Age of 11				Age of 12			
	142.00	55.80	34.78	87.51	146.00	57.73	37.56	82.63
	140.00	55.01	32.40	71.28	144.00	56.58	35.74	78.62
	138.00	54.22	31.08	68.37	142.00	55.80	34.54	75.98
	136.00	53.44	30.29	66.63	140.00	55.01	34.04	74.88
	134.00	52.65	29.51	64.92	138.00	54.22	33.27	73.19
	132.00	51.87	27.73	61.00	136.00	53.44	30.68	67.49
	130.00	51.08	28.52	62.74	134.00	52.65	30.39	66.85
	128.00	50.29	25.88	56.93	132.00	51.87	28.44	62.56
Mean:	134.90	53.01	29.86	65.69	140.29	55.13	32.98	72.55

	Age of 13				Age of 14			
	154.00	60.51	43.98	96.75	164.00	64.45	54.77	120.49
	151.00	59.33	39.62	87.16	160.00	62.87	48.50	106.70
	148.00	58.15	38.18	83.99	156.00	61.30	45.50	100.10
	145.00	56.98	36.06	79.33	152.00	59.73	42.33	93.12
	142.00	55.80	35.30	77.66	148.00	58.15	39.46	86.81
	139.00	54.62	33.66	74.05	144.00	56.59	36.85	81.07
	136.00	53.44	31.82	70.00	140.00	55.01	34.74	76.42
	133.00	52.26	29.09	63.99	136.00	53.44	30.76	67.67
Mean:	145.09	57.02	35.60	78.32	151.02	59.34	39.73	87.40

	Age of 15				Age of 16			
	170.00	66.81	60.45	132.99	173.00	67.98	64.09	140.99
	166.00	65.23	54.43	119.74	170.00	66.81	58.07	127.75
	162.00	63.66	52.95	116.49	167.00	65.63	56.36	123.99
	158.00	62.08	48.98	107.75	164.00	64.45	55.00	121.00
	154.00	60.51	44.54	97.98	161.00	63.27	52.88	116.33
	150.00	58.95	41.59	91.49	158.00	62.09	47.12	103.66
	146.00	57.37	38.68	85.09	155.00	60.91	44.09	96.99
	142.00	55.80	35.68	78.49	152.00	59.73	40.00	88.00
Mean:	158.18	62.16	46.95	103.29	163.73	64.34	52.90	116.38

	Age of 17				Age of 18			
	178.00	69.95	63.56	139.83	180.00	70.72	66.27	145.79
	175.00	68.77	62.39	137.25	177.00	69.54	64.32	141.50
	172.00	67.59	58.64	129.00	174.00	68.36	62.73	138.00
	169.00	66.41	57.14	125.70	171.00	67.20	60.78	133.71
	166.00	65.23	55.97	123.13	168.00	66.02	57.27	125.99
	163.00	64.04	53.18	116.99	165.00	64.83	54.24	119.32
	160.00	62.87	49.88	109.73	162.00	63.66	54.36	119.59
	157.00	61.96	45.45	99.99	159.00	62.47	53.13	116.88
Mean:	169.98	66.80	56.82	125.00	171.07	67.23	59.25	130.35

	Age of 19				Age of 20			
	cm	in	kilo	lbs	cm	in	kilo	lbs
	182.00	71.52	67.61	148.74	184.00	72.30	74.77	164.49
	179.00	70.34	65.11	143.24	181.00	71.12	66.93	147.24
	176.00	69.16	64.09	140.99	178.00	69.95	65.18	143.39
	173.00	67.98	61.93	136.22	175.00	68.77	63.68	140.09
	170.00	66.81	60.60	133.32	172.00	67.59	60.45	132.99
	167.00	65.63	58.91	129.60	169.00	66.41	59.32	130.52
	164.00	64.45	56.95	125.29	166.00	65.23	59.14	130.10
	161.00	63.27	52.67	115.87	163.00	64.04	54.59	120.09
Mean:	171.89	67.52	61.71	135.76	172.22	67.67	61.09	134.39

HEIGHT AND WEIGHT MEASUREMENTS OF GIRLS

From Hastings' Manual of Physical Measurements

	Age of 5				Age of 6			
	cm	in	kilo	lbs	cm	in	kilo	lbs
	112.00	44.01	20.74	45.62	116.00	45.58	21.36	46.99
	110.00	43.23	18.71	41.16	114.00	44.79	20.20	44.44
	108.00	42.44	18.86	41.49	112.00	44.01	19.64	43.20
	106.00	41.65	18.22	40.08	110.00	43.23	19.01	41.82
	104.00	40.87	17.27	37.99	108.00	42.44	18.28	40.21
	102.00	40.08	16.84	37.04	106.00	41.65	17.73	39.00
	100.00	39.30	16.02	35.24	104.00	40.87	16.93	37.24
	98.00	38.51	15.23	33.50	102.00	40.08	16.31	35.88
Mean:	105.38	41.41	17.32	38.10	109.90	43.19	18.50	40.70

	Age of 7				Age of 8			
	121.00	47.54	23.04	50.68	126.00	49.51	25.53	56.16
	119.00	46.75	22.44	49.36	124.00	48.72	23.98	52.75
	117.00	45.97	20.78	45.71	122.00	47.94	23.24	51.12
	115.00	45.18	20.76	45.67	120.00	47.15	22.18	48.79
	113.00	44.40	20.10	44.22	118.00	46.36	21.49	47.27
	111.00	43.61	19.65	43.23	116.00	45.58	20.85	45.87
	109.00	42.82	18.42	40.52	114.00	44.79	20.23	44.50
	107.00	42.04	17.38	38.23	112.00	44.01	18.90	41.58
Mean:	114.95	45.17	20.70	45.54	120.16	47.22	22.17	48.77

	Age of 9				Age of 10			
	132.00	51.87	28.61	62.94	136.00	53.44	31.40	69.08
	130.00	51.08	27.06	59.53	134.00	52.65	29.20	64.24
	128.00	50.29	25.90	56.98	132.00	51.87	28.14	61.90
	126.00	49.51	25.33	55.72	130.00	51.08	26.59	58.49
	124.00	48.72	23.85	52.47	128.00	50.29	26.31	57.88
	122.00	47.94	23.35	51.37	126.00	49.51	25.32	55.70
	120.00	47.15	22.76	50.07	124.00	48.72	24.24	53.32
	118.00	46.36	21.34	46.94	122.00	47.94	22.70	49.94
Mean:	126.17	49.59	24.90	54.78	131.29	51.59	27.16	59.75

	Age of 11				Age of 12			
	cm	in	kilo	lbs	cm	in	kilo	lbs
	142.00	55.80	34.03	74.86	152.00	59.73	42.36	93.19
	140.00	55.01	31.82	70.00	149.00	58.55	38.86	85.49
	138.00	54.22	31.25	68.75	146.00	57.37	36.93	81.24
	136.00	53.44	30.27	66.59	143.00	56.19	34.85	76.67
	134.00	52.65	28.35	62.37	140.00	55.01	32.62	71.76
	132.00	51.87	28.07	61.75	137.00	53.83	30.80	67.76
	130.00	51.08	27.73	61.00	134.00	52.65	29.58	65.07
	128.00	50.29	24.73	54.40	131.00	51.47	27.50	60.50
Mean:	135.16	53.12	29.00	63.80	142.03	55.81	33.06	72.73

	Age of 13				Age of 14			
	156.00	61.30	45.91	101.00	164.00	64.45	51.27	112.79
	153.00	60.12	42.73	94.00	161.00	63.27	48.89	107.55
	150.00	58.95	40.26	88.57	158.00	62.09	45.91	101.00
	147.00	57.77	38.41	84.50	155.00	60.91	45.98	101.15
	144.00	56.59	35.05	77.11	152.00	59.73	43.13	94.88
	141.00	55.41	34.09	74.99	149.00	58.85	41.42	91.12
	138.00	54.23	31.14	68.46	146.00	57.37	38.07	83.75
	135.00	53.05	29.54	64.98	143.00	56.19	35.05	77.11
Mean:	148.53	58.35	37.94	83.46	153.17	60.19	42.92	94.42

	Age of 15				Age of 16			
	162.00	63.66	53.18	116.99	164.00	64.44	54.48	119.85
	160.00	62.87	49.45	108.79	162.00	63.66	52.36	115.19
	158.00	62.08	48.49	106.67	160.00	62.87	53.50	117.70
	156.00	61.30	47.05	103.51	158.00	62.08	50.40	110.88
	154.00	60.51	45.34	99.74	156.00	61.30	50.00	110.00
	152.00	59.73	45.00	99.00	154.00	60.51	49.09	107.99
	150.00	58.94	44.09	96.99	152.00	59.73	46.82	103.00
	148.00	58.15	40.60	89.32	150.00	58.94	45.55	100.11
Mean:	156.79	61.61	46.71	102.76	157.93	62.00	50.38	110.83

	Age of 17				Age of 18			
	165.00	64.83	57.95	127.49	166.00	65.23	55.45	121.99
	163.00	64.04	53.64	118.00	164.00	64.44	53.18	116.99
	161.00	63.26	50.15	110.30	162.00	63.66	51.06	112.33
	159.00	62.47	49.85	109.67	160.00	62.87	50.85	111.87
	157.00	61.96	50.45	110.99	158.00	62.08	48.96	107.71
	155.00	60.90	48.49	106.67	156.00	61.30	48.82	107.40
	153.00	60.11	50.23	110.50	154.00	60.51	47.84	105.24
	151.00	59.33	48.49	106.67	152.00	59.73	46.70	102.74
Mean:	159.40	62.63	50.44	110.96	159.74	62.77	50.16	110.35

	Age of 19				Age of 20			
	166.00	65.23	55.60	122.32	166.00	65.23	56.99	125.37
	164.00	64.44	55.91	123.00	164.00	64.44	53.64	118.00
	162.00	63.66	54.09	118.99	162.00	63.66	52.05	114.51
	160.00	62.87	50.91	112.00	160.00	62.87	51.82	114.00
	158.00	62.08	50.45	110.99	158.00	62.08	51.88	114.13
	156.00	61.30	50.09	110.19	156.00	61.30	51.14	112.50
	154.00	60.51	46.14	101.50	154.00	60.51	50.45	110.99
	152.00	59.73	44.85	98.67	152.00	59.73	45.00	99.00
Mean:	160.09	62.90	51.43	113.14	160.81	63.19	52.27	114.99

National Association for the Study and Education of Exceptional Children

Test Cards

Anatomical **Body Measurements**

NAME OF CHILD.....**BORN**.....

Date												
Height, standing												
Height, sitting												
Weight												
Girth, neck												
" r. arm												
" r. arm bent												
" l. arm												
" l. arm bent												
" chest deflate												
" chest inflate												
Diam., chest a.p.												
" chest trans.												
Lung capacity												
Shoulders, diameter												
Hips, diameter												
Girth, hips												
" abdomen												
" r. thigh												
" l. thigh												
" r. calf												
" l. calf												
" head												
Head, a.p. diameter												
" trans. diam.												
Temperature												
Pulse												
Respiration												

Remarks on Measurements

Date	Entries

Schedule 3

Medical Examination

The following blank provides for three medical examinations intended to be made in the course of a year, to watch eventual changes for the better or further developments downward. These examinations should be made by the visiting physician, or the medical examiner. He will make such suggestions as will regulate the daily physical regime of the child.

National Association for the Study and Education of Exceptional Children

Test Cards

Medical Examination

NAME OF CHILD.....BORN.....

Date:			
Physician:			
General Appearance:			
Nutrition:			
Head:			
Eyes:			
Pupillary Reactions:			
Light Accommodation:			
Nystagmus:			
Squint:			
Ears:			
Malformation			
Discharge:			
Hearing:			
Nose:			
Mouth:			
Teeth:			
Tongue:			
Palatal Arch:			
Tonsils and Pharynx:			
Neck:			
Thyroid and Lymph Glands			

Glands: Inguinal: Axillary: Epitrochlear:			
Chest: Deformities: Heart: Lungs:			
Spine: Deformities:			
Abdomen: Contour: Liver: Spleen: Tumor:			
Hernia:			
Genitals: Prepuce: Testicles: Clitoris: Labia: Malformation Discharge: Pubic hair:			
Extremities: Knee jerk: Ankle clonus: Bahinski ataxia: Tremor: Convulsive Movements Gait and Station: Prehension: Deformities:			

Schedule 4

Anatomical and Physiological Examination

This comprehensive examination by specialists, as proposed by the following blanks, may not have to be made in all cases; or not the entire examination in every case. Special conditions may make it desirable, however, to test out at least some of these data. Some of the tests mentioned in Schedule VII appear here also, in the province of sense perception.

(A) Anatomical Data.....Skeleton.

(B) Anatomical Data.....Musculature.
Characteristics.

(C) Functional Tests.

National Association for the Study and Education of Exceptional Children

Test Cards

Anatomical **Skeleton**

NAME OF CHILD.....

DATE .....**BORN**.....

Skull, form (cf. measurements, and diagram chart)
Normal; mongol; microcephalic; macrocephalic; hydrocephalic; other peculiarities:

Chest: (cf. measurements)
Pigeon-breasted?

Spine:
Scoliosis?

Shoulders:
Round?
Asymmetry? r: l:

Arms:
Length:
Rotch's Wrist tests: (cf. X-Ray pictures on reverse side of sheet.)
Hands: r: l:
Number of fingers: r: l:
Position of fingers: r:
l:

Legs:
Length: r: l:
Traces of hip disease?
Genu valgus?
Genu varum?
Arch of foot: r: l:
Number of toes: r: l:
Position of toes: r:
l:
Talipes calcaneus:
" equinus:
" valgus:
" varus:

Other Observations:

X-Ray Pictures of Wrists: (On reverse side.)

National Association for the Study and Education of Exceptional Children

Test Cards

Anatomical **Musculature** **Characteristics, &c.**

NAME OF CHILD .....

DATE ..... **BORN** .....

Peculiarities of Face:

Symmetry or asymmetry:

NOSE:
- Form:
- Nares:
- Septum:
- Turbinates:

MOUTH:
- Lips:
- Tongue:
- Teeth:
- Palatal arch:
- Uvula:
- Tonsils:
- Pharynx:
- Size:

EARS:
- Form:
- Size:
- Position:

EYES:
- Form:
- Size:
- Position:
- Color:
- Lashes:
- Brows:

FOREHEAD:
- Form:
- Size:
- Wrinkles:

SKIN:
- Color:
- Condition:

Mammae:

Abdomen:

Genital Organs:

Immature?
Prepubescent?
Pubescent?
Adolescent?
Pubic hair:
Adhesions?
Irregularities:
Malformations:

Special Characteristics:

Remarks:

National Association for the Study and Education of Exceptional Children

Test Cards
Functional Tests

NAME OF CHILD.....BORN.....

DATE .....

Special Senses:

VISION:*)
- Distance:
- Acuteness:
- Field:
- Focus:
- Astigmatism:
- Color:
- Reading Center:

HEARING:*)
- Distance:
- Direction:
- Accuracy:
- Speech Center:
- Tone perception:

TASTE:*)
- Sour:
- Sweet:
- Bitter:
- Foods:
- Non-foods:
- Special tests of acuteness:

SMELL:*)
- Foods:
- Flowers:
- Perfume:
- Various substances:
- Special tests of acuteness:

TOUCH:*) (also indirect, using stick, or pencil, or other implements, for touching objects.)
- Soft and hard:
- Materials:
- Forms:
- Tactual memory:
- Special tests of acuteness:

TEMPERATURE SENSE:
Warm:
Cold:
Acuteness:

MUSCULAR SENSE: *)
Graduated weights:
Muscular memory:
Weights identified:
Weight illusions:
Draw line:
Walk board:
Stand on r. foot: (Balance)
Stand on l. " (")
Throw Ball:
Catch Ball:
Tie Shoes:
Untie Shoes:
Thread Needles:
Grip (dynamometer):

Localization:
Find unhidden and hidden objects:
Find way (blindfolded): *)

Chorea Tests:
Front touch:
Overhead touch:
Back touch:

Knee jerk:

Habit Spasms:

Neuroses:

Speech:
Articulation:
Fluency:
Structure of language:
Aphasia:
Stammering:
Stuttering:
Development:

Dexterity:

Gait:

Appetite:

Digestion:

Heart:

Lungs:

Urination:

Tests of **urine, blood** and **feces** on separate sheets.

Von Pirquet Reaction:

Wassermann Test:

(*cf. Schedule VII.)

Schedule 5

Regimen and Diet

This and the following blank require no comment. It will be well to keep the records accurate, as further developments may have their explanation in the data thus recorded. It is, of course, to be hoped that the regime and diet laid out for a child will have a beneficial effect upon his mental and physical growth, and that the fighting of disease will save him from danger and decline.

National Association for the Study and Education of Exceptional Children

Regimen and Diet

NAME OF CHILD.....

DATE .....BORN.....

No.	Date	Nature of Treatment	Purpose	In Charge of	History	Discont.

Schedule 6

National Association for the Study and Education of Exceptional Children

Disease Record

NAME OF CHILD.....BORN.....

Date:	Physician:	Diagnosis:	Treatment:	History:

Schedule 7

Physio-Psychological and Mental Tests

These tests are not arranged, like the Binet Scale, by years, but by periods. It seemed futile to the author to establish exact grading by years, as no hard and fast lines can be drawn between what is characteristic for one or the other chronological year in a child's life. The measuring must allow considerable leeway here and there, and the standard applied must be elastic. But what can be done is to distinguish certain definite periods in a child's life, altho the boundaries of these periods may not be distinctly drawn, in years. The periods here differentiated correspond with the Culture Epoch division of child development as set forth in the author's books: **"The Career of the Child from the Kindergarten to the High School"**, and **"Some Fundamental Verities in Education"** (both published by Richard G. Badger, Boston, Mass.)

The **Primary Period** is that of the "human animal", meaning the human species as differentiating itself from the lower creation; omitting babyhood, as babies do not come under the teacher's observation, this period covers the years from about 3 to about 5, or the so-called kindergarten age.

The **Elementary Period** ("race period") represents the stage in which race characteristics are evolving from the general human potentials. Age about 6 to 11.

The **Intermediate Period** comprises the years from 12 to 15, or thereabouts, and is the nation-forming, the pubescent period.

In the **Advanced Period,** family and individual traits will manifest themselves. It is the age from 15 upward to maturity.

Care has been taken to avoid the introduction of special or elaborate apparatus as far as possible. Thus the tests can be made in any schoolroom or home. They are so planned that many of them, if not all, can be presented in the form of agreeable exercise and play; others will form the subject of pleasant and seemingly, to the child, spontaneous conversation and pastime. Thus the child will be

perfectly at ease and will not be awed by a laboratory atmosphere.

It is obvious that these tests cannot be expected to be completed in one sitting. They will extend over a longer or shorter period of time. Only so much should be done in one examination as can be accomplished without straining the child. Rest and recreation periods can be utilized. Other tests can be made part of the schoolroom work. In a measure, they may be utilized in place of the traditional examinations, to determine a pupil's maturity for promotion.

In applying these tests, it is well to remember that a child who is chronologically supposed to be in a higher group, must first give evidence that he has physio-psychologically and mentally outgrown the lower periods. Therefore he should show that he can master the previous development tests with ease before he is even tried in his own group. And it may be best to apply the same line of examination first from the first to the last group. To explain: give first the visual tests, ascending from the primary group to the next, as far as the child can go. Then do the same with the aural tests, and so on.

Within each period, when more than one test is presented in any one subject of examination, some are arranged in a tentative ascending scale, so that the different ages within the period may be more exactly, even tho approximately, determined. Thus, the first series of such a test is intended more particularly for the first year or division within the period; the second series for the second year, or division, and so on. Likewise, those tests which are numbered (1), (2), etc., or (a), (b), etc., are arranged in a somewhat ascending scale. However, this scale must not be taken too literally and mechanically, as there are as yet no definite facts to serve as an absolute basis or gauge, and we must allow for variations in aptitudes and opportunities. It may merely be accepted as a guide.

Whether the grading is in every instance correct will have to be investigated. It may, e. g., be suggested by some that younger children would more easily rely on the mechanical memory, and that therefore the nonsense syllable test which has been placed in the advanced group ought to change place with the familiar words test as suggested for the intermediate group. Again, the test with aqua destillata, for contrast in the smell tests, and for the effect of possible suggestion; and the tests with pure water in the taste tests, for the same purpose, have been enumerated only among the tests for the advanced group. It may be urged

that the suggestion part of this series of tests would be more fitly placed in the lower groups as suggestion is stronger with younger children. The author has here reversed the order which may be thought more in harmony with the natural development of the child, for the reason that the object of these tests is rather to examine the child's power to emancipate himself from earlier instincts and tendencies. But he disclaims any desire to be dogmatic.

Some of these tests, notably the sense tests, the tests for motor co-ordination, judgment and expression, may serve for the determination of vocational aptitude, especially in the latter years, or periods. But they are not arranged for this particular purpose. Those who wish may be benefitted by the experiments made in some psychological laboratories for furnishing vocational guidance. This work is in its infancy. And yet, valuable results have been obtained in examining, by special test methods, those who would wish to be stenographers, motormen, switchboard operators, typists, etc. We may hope for helpful development along this line when once these tests will be organized and standardized. Vocational tests will supplement these mental tests so that each young man and woman may have expert advice on his or her fitness for the various occupations and professions. In that manner, the number of ineffectives and misfits will be materially lessened.

Hints as to the significance and method of some of the tests.

PRIMARY PERIOD

Physio-psychological Tests

Snellen's test cards are well known. For this period the "illiterate" card is to be used. There are several such cards published, containing pictures of animals and common things in place of the different-sized letters.

The E-fork test was invented by Prof. Herrmann Cohn, of Breslau, the pioneer in the matter of calling attention to the necessity of testing the eyes of school children. It presents the capital letter E in various positions which can be imitated by the child with the use of a paste board form of the letter, resembling a fork. Lately, the McCallie Vision Tests (published by Edwin Fitzgeorge, Trenton, N. J.) have been brought into the market. They are an inexpensive substitute for the Cohn test. There is also a "literate" McCallie set which can be used as a substitute for the more complete Snellen cards.

The other sense tests have, of course, to be given after blindfolding the child.

Mental Tests

The first judgment test is the first in a graded series of cut-up pictures, leading up to a regular jig-saw puzzle in the advanced series.

Frames for drawing thru ground glass (expression test) can be bought for a trifle in every toy store.

As to tests 2, 4 and 5 (under Expression), cf. the author's book, "Some Fundamental Verities in Education" (Boston, Richard G. Badger.)

ELEMENTARY PERIOD

Physio-psychological Tests

Here the acquaintance of the child with the letters of the alphabet is presupposed. Consequently the "literate" Snellen or other cards should be used.

For color matching use any standard series of colored papers (Prang's, Bradley's, etc.) The author used the large sample book of the Prang series. The colored papers are 2x3½ inches. These were pasted upon cards 3x5 (the standard library record card), and were then cut in half, thus producing two pieces which could be matched together.

Tactile test 2 is made with the help of a simple piece of apparatus. Use ordinary large bottle corks, and drive into them with the point downward, large sewing needles at different distances, or singly. Care must be taken that the double needle points are on a level.

The graduated extracts for the smelling test should be made with alcohol as a solvent, while the graded solutions for the taste test should be prepared with distilled water.

Disturbances in the static apparatus (in the inner ear) are often indicative of other nervous handicaps. A child having such a disturbance will sway and fall when walking along a straight line, and will immediately fall forward when standing in Romberg position.

Mental Tests

Walking along a straight line, as a test for motor co-ordination, is not done with feet extended, as in the static test, but in ordinary "toe out" position.

For the second test in motor co-ordination, we use "needles," the largest of which are really pieces of iron or

steel about 4 inches long, round in shape, with a large hole at one end, about 3-16 of an inch in diameter. The smallest of these is an iron bar, about ⅛ of an inch in diameter, with a hole correspondingly smaller. Shoestrings, large cord, etc., are used for threading.

The two pieces of wood for Judgment test 1, a, can be easily made: take a piece of 2x4, about one foot long and weighing approximately one pound. Then cut another 2x4 piece, but considerably shorter, perhaps only 3 inches long; saw it apart, hollow it out and fill the opening with lead so as to make the piece, when glued together again, weigh as much as the larger piece. The seams should be carefully obliterated, and both pieces varnished, so as to enhance the illusion. The smaller piece will be thought to be heavier by a normal child.

The Formboard is fully described in Shuttleworth's book on "Mentally Defective Children." It will be noticed that there is a distinct mental difference between those children who finally succeed, if they do at all, after mechanically trying the various pieces in various grooves, and striking the right one by chance; and those who carefully compare the form of the piece with the form of the groove. In this formboard each form is different and no form can be fitted into any groove but its own. A modification of this formboard would be one in which the same form, f. e., a circle, is used in different sizes; the task would then be to find the corresponding size.

For Judgment test 1, a, and Expression test 6 cf. again the author's book, "Some Fundamental Verities in Education."

INTERMEDIATE PERIOD

Physio-psychological Tests

The test for astigmatism is made with a Snellen card on which there are sets of heavy parallel lines arranged somewhat in the form of the face of a clock. One set is arranged horizontally, another vertically, two others diagonally. If any of these sets of lines appear blurred, there is astigmatism. It is, of course, the oculist's function to provide for this condition, which is a frequent source of eye strain.

In the tests for visual memory, a black wooden screen is used, which fits upon the examiner's desk so that the objects or cards to be exposed may be hidden behind it and shown above it conveniently. The words are printed in clear, bold type 3 inches high, on pieces of stiff cardboard, about 5x10.

For the first hearing test, a simple one-string instrument can be constructed in the workshop. Make a box one yard long, about four inches wide and deep, and open at both ends so as to serve as a sounding board. A yard measure is fastened on top to serve as a guide. Over wooden cleats at both ends, and with a suitable tension arrangement (a little metal wheel at one end will answer the purpose) a metal string is drawn so as to produce a musical tone. A movable cleat will allow to produce two different tones, one on either side of it. The experimenter will set this so as to produce some certain tone and will then move the cleat away. It is then the child's task to set the cleat in the place where it would produce the same tone. Sometimes the tones on either side of the cleat may be used jointly for this experiment.

Mental Tests

The 100 A test is familiar to every psychological laboratory. A copy of the form used can be easily obtained almost anywhere.

Judgment test 1, a, is described in the author's "Some Fundamental Verities," etc., p. 25. The weights for 1, b, can be easily constructed. Take pieces of brass pipe of unequal length and fill them with lead so as to effect equal weight. The ends should be so finished up as to hide the fact that the pieces are leaded. As in the case of the two pieces of wood described before, the smallest piece will give the illusion of being the heaviest. In this intermediate test the difference in size will be smaller, and consequently the test requires finer discrimination. Cf. the book quoted, pp. 26 sequ.

ADVANCED PERIOD

No explanation seems to be needed for any of the physio-psychological tests.

For Judgment test 2, the same arrangement of dots is used as for Intermediate, Motor Co-ordination, 1. There are only two rational ways of solving the problem, and only one of these two is the speediest. This task is parallel to the well-known judgment test: finding a hidden object in a field. The only rational method of doing this is identical with the only speedy method of connecting the dots.

It must be remembered that a child under twelve cannot be expected to think rationally. The budding of reason is brought on with a child's entering upon the Intermediate Period. Only in the Advanced Period can he be sup-

posed to have the full use of his reasoning faculties. Cf. the author's book, "The Career of the Child from the Kindergarten to the High School."

Note—Complete sets, or single pieces, of apparatus and materials, and printed blank forms, needed to carry out these tests, are now being prepared for sale by the National Association for the Study and Education of Exceptional Children, Plainfield, N. J. Prices on application.

Physio-Psychological and Mental Tests for Children

Primary Period

PHYSIO-PSYCHOLOGICAL TESTS:

Visual:

DISTANCE AND ACCURACY:

1. Snellen's Test Cards: pictures.
2. Prof. Cohn's E-fork.

COLOR:

1. Matching colored worsted; primary colors only.
2. Naming 6 primary colors: red, orange, yellow, green, blue, purple (violet). The names of these, as well as the colors themselves (1) are the first to be distinguished and remembered.

Aural:

DISTANCE AND DIRECTION:

Cf. Functional tests, Schedule III. Child (blindfolded) should be asked to follow the sound of a bell, or a call, now loud, now low, as in a game.

Tactile:

Tests in identifying ball, key, shoe, paper, goods, etc.

Smell:

Recognizing soap, fresh bread, flowers, etc.

Taste:

Recognition of sugar, salt, bread, fruit.

MENTAL TESTS:

Naming familiar objects: in room, outdoors, from pictures. Note facility, range, substitution.

Counting:

1. Put two heaps of sticks before child, one containing 3, the other 12 sticks. Which is the larger heap?
2. Counting as far as child can count.
3. Abacus (5 rows of 10 beads each):

Move beads in each row (different colors) one by one, and count at the same time.

Following Direction:

Give child a simple direction, such as: "Hand me the book from the table!" or, "Open the door!" and observe with what promptness and success it is carried out.

Imitation:

Make some motion with your hand, like waving; or take a hammer and strike a nail, and have child repeat the action.

Imaginative Imitation:

1. Tell child to show in what manner mother cooks breakfast; or father smokes, or chops wood; or the gardener sows his seed, etc. Take example from the child's natural circle of observation.

2. Have the child imagine himself to be somebody else (the opposite sex, his father or mother, or street car conductor, or milkman, or soldier; an animal, a bird, a tree, a flower) and ask him to act as they would.

Story Telling:

1. Have child repeat a story, like Red Riding Hood (it must be new to the child), as told by the experimenter.

2. Give doll, or play-horse, to child. Have him play with it and tell imaginative happenings.

Judgment:

1. Which of two lines is the longer?

2. Simple picture cut into four squares; reconstruct. (In this as in the following tests of a similar nature it is well to make two tests: in the first, show the picture to be reconstructed and let child work from model; in the second, present another cut-up picture without showing the whole or model, so that the child will have to draw his own conclusions from the parts he handles as to what the whole may be. The puzzle character of this second test adds to the pleasure of it while it is a much severer test of judgment.)

Motor Co-ordination:

1. Have child, first by imitation of the experimenter's own motions, then by direction, raise arms in various positions, spread and close fingers, bend and unbend hands and arms, move head, bend and twist trunk, bend knees, stand on tiptoe, sit on floor and rise again without assistance even of his own hands, climb on chair, etc.

2. Use large pegboard. Have child, first by imitation, then by dictation, fit pegs so as to form straight lines, borders, designs, imaginative figures, etc.

3. Weave simple designs with a linen mat (over one, under one; over two, under two; over one, under two; star or other simple design).

Expression:

1. With large building blocks, build steps, bridge, house, imaginary structure.
2. Model some familiar form (ball, bird's nest, flower pot) from memory.
3. Drawing of conventional and life forms thru ground glass.
4. Draw, freehand, a man, a horse, a house, from memory.
5. Draw a pond, with trees standing in front and back.
6. Sing a song.
7. Recite some piece of poetry.

Elementary Period

PHYSIO-PSYCHOLOGICAL TESTS

Visual:

DISTANCE AND ACCURACY:

Snellen's Test Cards.

COLOR:

1. Matching of primary colors, and at least one tint and one shade, in colored papers mounted on cards to be fitted together.
2. Naming these colors, also light and lighter, dark and darker.

VISUAL MEMORY:

1. Holding up to child's eyes colored papers (or objects, like balls) in the following order:
   a. red, blue, yellow;
   b. red, green, blue, yellow;
   c. red, green, orange, blue, yellow;
   d. red, orange, yellow, green, blue, violet; each series about 10 seconds, and having child repeat order in which colors were seen.
2. Holding up familiar objects and having child repeat names in order given:
   a. ball, book, chalk;
   b. fork, knife, spoon, napkin;
   c. hammer, bottle, chalk, key, ruler;

d. Combine a and b.
e. Combine c and b.

This second test may be modified, or amplified, by having these, or other objects, arranged in groups of 3, 4, 5, 7 and 9 on a table for momentary exposure. (Cf. Reading test)

Aural:

1. For distance and direction, use same tests as in Primary. But at this age have the (blindfolded) child tell:
   a. Character of sound (bell, tapping, knocking, scraping, words spoken, etc.);
   b. From whence the sound comes:
   c. How far away it is. This latter experiment should include discrimination of distance with different degrees of loudness.
2. Have child repeat tone sung, or produced on instrument.
3. Test child's hearing with low tones (low, soft voice, or large, low-pitched tuning fork); then with high, shrill tones (high pitched voice or small tuning fork).
4. Discrimination of higher and lower tones from standard, c. Each tone is to be individually compared.

   d $\overline{\overline{e}}$ g $\overline{b}$ c f a $\underline{\underline{d}}$ $\overline{e}$ f

5. Sense of rhythm (hearing and motor).
   Tapping by experimenter and child in unison, at various rates of speed. Tapping by child alone after standard given; memory. Eventually use metronome.
6. Tell (or write) from memory the following selection after it has been read once, twice, three times by the experimenter:

TRUSTY HELPERS

Man has many good helpers among the animals, but there are only two that can be trusted to do their work alone. These two are the dog and the elephant.

Books have been written about dogs and the wonderful things they have done. They run errands and care for sheep and cattle. They rescue travelers, who have been lost in the snow, and do no end of strange things.

The elephant, too, has been taught to do many

wonderful things. He is so strong that he can carry heavy loads. He is so gentle that little children have been left in his care. He is so trusty and faithful as to be a model for all.

Mark the number of memories; maximum 25. Cf. test in reading and writing.

Tactile:

1. Simple tests in identifying objects (pencil, brush, ball, knife, coin, etc.) and solids (ball, cube, cylinder). Child is blindfolded or holds hands on back.

2. Single and double needle-points, using distances of two to one inch, pricking skin in various body areas, to recognize number of points. Or use algometer. Child is blindfolded.

Smell:

1. Elementary tests with ordinary strength of vinegar, ground coffee, soap, earth, fruits, flowers, perfumes, etc.

2. Graduated tests for acuteness. Use graded extracts of musk, violet, orange, etc., varying between .001% and 100%.

Taste:

1. Elementary tests with ordinary strength of sugar, quinine, vinegar, salt, coffee, bread, chocolate, fruits, vegetables, etc.

2. Graduated tests for acuteness: Use graduated solutions of sugar, quinine, vinegar and salt, varying between .001% and 100%. Mark first traces of sweet, bitter, sour, salt.

Location:

1. Experimenter points out some object in room. Then blindfolds child and asks him to walk towards the object.

2. Have child walk several times with open eyes from door to window; then blindfold him and have him retrace his steps in that way (muscular memory).

Balance (Static Apparatus):

1. Walking along straight line, with feet extended straight forward.

2. Standing in Romberg position (feet close together, eyes closed).

MENTAL TESTS

Counting:

1. Counting as far as child can count.
2. Counting backward, 10—1.
3. Counting by 2's as far as child can go.

4. Counting backward by 2's: 10—2, 20—2.
5. Counting by 10's to 100.
6. Counting backward by 10's, 100—10.
7. Counting by 5's as far as child can go, at least 50.
8. Counting backward by 5's: 50—5, 100—5.
9. Counting by 3's to 30, 60, 90, 120.
10. Abacus:
    a. Move red beads 2 by 2.
    b. Move orange beads 3 by 3. How many left?
    c. Move yellow beads, 1, 2, 3, 5.
    d. Move green beads, 4 and 4. How many left?
    e. Divide blue beads in half. How many in each half?
    f. How many times can you move 2 red beads? Five times 2 is?
    g. Construct 34, using red, orange, yellow, green and blue beads.

Language:

1. Have child name his parents, brothers and sisters, his other relatives, his teachers and friends.

2. Who makes the shoes? Who builds the house? Who raises the corn? Who drives the wagon? Who collects the fares? Any number of similar questions, or variations in accordance with the child's circle of experience.

3. Have the child learn to understand and use some simple "secret" language, like adding "ing" (or in case of a vowel "ng") to letters or words. For example:

"Ting, hing, eng, ming, ang, ning, ing, sing, ong, ling, ding."

(The man is old.)

4. Converse with him in one such "secret" language.
5. Have child invent a "secret" language of his own.

Following Direction:

Give the child some direction, which would involve two different actions successively, e. g., tell the child to lock the door and bring you the key; or, to raise arms over his head and then lower them behind his back, etc.

Association:

a. Presentation of familiar object (apple, knife, pocketbook). Child is asked to dictate to the experimenter the names of other objects coming to his mind as suggested by the object presented, as fast as possible, in three minutes.

b. The same exercise, except that the **name** of a familiar object (book, mother, house), is mentioned to the child.

c. Genus—Species: Tell an animal, a plant, food, article of clothing, piece of furniture.

d. Part—Whole: Tell of what the following is a part: an arm, a sleeve, a drawer, a leaf, a room.

e. Opposites: What is the opposite of bad, short, little, poor, well, thick, full, few?

f. Qualities: Tell me something that is high, cold, new, smooth, red, round, clean, bitter, heavy.

g. Activities: Tell me the name of something that walks, rolls, flies, barks, swims.

Reading:

1. Reading of graded passages from some good series of readers, First to Fifth Reader. Note facility, expression, understanding, substitutions, etc.
2. Have child repeat orally what he has read. (Visual memory.)

Writing:

1. Dictation of graded passages from same set of readers.
2. Have child repeat in writing what he has read, as nearly as he can reproduce it.

Judgment: (Experience):

1. Muscular and optical illusions:
   a. Two pieces of wood of different size but equal weight.
   b. A white circle on black background; same size black circle on white background; which appears larger? (Circle of about 2″, observe from distance of 10′ in good illumination.)
2. Dissected pictures:
   a. Simple picture cut into 5 oblongs.
   b. Simple picture cut into 12 pieces of different forms. (This test may be done imperfectly by some children of this stage; it ought to be done perfectly in the next stage.)
3. Formboard: 12 different geometric forms to be fitted into their grooves. Note time and accuracy. This test should be tried with elementary children, but will be more perfectly done by children of next stage.

Motor Co-ordination:

1. Walking along straight board, or line.
2. Threading of needles, very coarse to medium.
3. Tapping (Cf. Rhythm Test, Aural, 5).

4. With light hammer, child is to drive ordinary or upholstery tacks into a flat piece of pine wood, making lines and simple designs, from dictation or invention.

5. The child is to saw a strip of soft wood, 1 inch square, 6 feet long, into six pieces of six inches each, and three pieces 1 foot long each. He must measure them off himself. With these nine pieces, the child is to construct some simple object (ladder, trellis, flower stand, etc.), according to his own ideas, using hammer and nails.

6. Throw and catch ball.

7. Draw an undulating line.

8. Marking with cross, in lead pencil, 100 squares in their centres. Squares ½ in. Note accuracy and time.

9. Striking graded pegs with metal pencil (electric contact). Note accuracy and speed.

By repeating tests 8 and 9 up to ten times, in succession, the effect of practice, habit, and fatigue can be studied and tabulated.

10. Tying and untying of strings (shoestrings).

Expression:

1. Model some familiar form (ball, bird's nest, flower pot) from memory.

2. Paint, with ink or watercolor, an apple, a flower, a vase, from model.

3. Draw, on transparent slate, life forms after patterns.

4. Draw, freehand, a man, a horse, a house, from memory.

5. Draw the following: an oblong pond with trees standing in front and back.

6. Draw the following: On this side of the street a shoemaker is at work at his bench; on the opposite side is a carpenter building a house.

7. Child is to sing a song he knows, eventually with accompaniment.

8. Child is to say any piece of poetry he has learned and happens to remember.

Aesthetic:

1. Color preference.
2. Favorite flower.
3. Favorite song, or musical piece.

Intermediate Period

PHYSIO-PSYCHOLOGICAL TESTS

Vision:

DISTANCE AND ACCURACY:

Snellen's Test Cards.
Tests for astigmatism.

COLOR:

Matching of intermediate colors, and naming them as accurately as child can describe them.

VISUAL MEMORY:

1. Drawing successively 10 straight lines after standard (4 in. long). The standard is drawn on top of paper, and is removed from sight by folding under, after being exposed five sec. Each copy is likewise folded under before next is attempted. Mark extremes and mean variation.

2. Momentary exposure of 12 familiar objects successively, the child writing down the names after all objects have been shown. Mark completeness and order.

First Series: Hammer, ball, bottle, chalk, fork, bell, key, clock, book, mat, ruler, box.

Second Series: Newspaper, rubber, eraser, pack of cards, hat, pad, plane, knife, worsted, comb, scissors, picture, envelope.

This test may be modified in same manner as Elementary, Visual Memory, 2.

3. Exposing familiar words, to be written down from memory in the order shown, after having been exposed 5 times: (**heavy-faced** words in **red** ink).

First Series: Cow, room, **ship,** queen, hammer.

Second Series: Road, glass, board, **bell,** pencil, water.

Third Series: Garden, stone, **grass,** dog, bottle, hill, wall.

Fourth Series: House, **statue,** paint, ink, **door,** picture, cloud, tree.

Fifth Series: Paper, roof, sky, **pen,** leaf, hammer, cow, **ship,** bottle, **door.**

(Cf. Reading test)

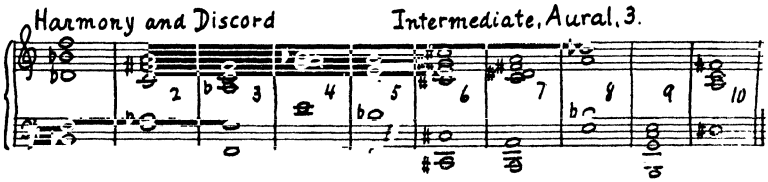
Aural:

1. Recalling and recognizing single tone (use special string instrument).

2. Discrimination of higher and lower tones, as in 3, Elementary. Standard c:

b d-sharp b-flat d a e g b c-sharp

3. Consciousness of harmony and discord (selected chords).



4. Memory of spoken unrelated words: Familiar words pronounced by the experimenter to be repeated, orally, or in writing, in order given. Mark completeness, order, time. Present 5 times.

First Series: Room, sky, stone, ink, garden.

Second Series: Queen, water, pen, wall, pencil, glass.

Third Series: Tree, grass, door, board, road, cow, ship.

Fourth Series: House, cloud, leaf, paint, roof, picture, dog, hammer.

Fifth Series: Leaf, paper, hammer, dog, bottle, statue, picture, hill, roof, paint.

5. Memory of spoken related words. Method same as in 4.

First Series: Home, father, business, city, office.

Second Series: Mother, dinner, meat, fork, napkin, dishes, table, chair.

Third Series: Country, woods, tree, grass, moss, flowers, grass, picnic.

Fourth Series: Water, lake, river, ocean, steamer, trip, England, London, Germany, Berlin, Kaiser, America, Star-spangled banner.

6. Memory of word picture. The purely ear-minded child will respond to the reading of the selection by experimenter; another method is to have the child read the selection aloud, thus combining visual and motor memories with the aural (hearing his own voice). Selection may be read twice, or even three times in succession, and a combination of both methods is allowable if response to one is unsatisfactory. Child to repeat orally, or reproduce in writing.

PLOUGHING

All day long the ploughmen on their prairie farms have moved to and fro on the wide level field thru the falling snow which melted as it fell, wetting them to the skin—all day, notwithstanding the frequent squalls of snow, the dripping, desolate clouds, and the muck of the furrows, black and tenacious as tar.

Under their dripping harness the horses swung to and fro silently, with that marvelous uncomplaining patience which marks the horse. The ploughman behind his plough, tho' the snow lay on his ragged great-coat, and the cold, clinging mud rose on his heavy boots, whistled in the very beard of the gale.

As the day passed, the snow, ceasing to melt, lay along the ploughed land and lodged in the depth of the stubble, till on each slow round the last furrow stood out black and shining as jet between the ploughed land and the gray stubble. (Garland.)

Mark number of memories.

Touch:

1. Tests in identifying smaller objects and solids (blindfolded) as pen points, small keys, marbles, various fabrics, flat and solid geometric figures as triangles, ovals, vases, etc.)

2. Single and double needle-points using distance of from 1 to ¼ in., testing various body areas. Or use algometer.

Smell:

Acuteness. Use graduated extracts as in Elementary tests.

Taste:

Acuteness. Use graduated solutions as in Elementary tests.

Location:

Memory: visualization. Draw ground floor of your school-room, or of some room in your dwelling house (bedroom, dining-room, etc.) from memory.

MENTAL TESTS

Counting:

1. Count as far as you can count. After 200, count by 10's; after 300, count by hundreds; after 2000, count by thousands.

2. Count backward, 100—1.

3. Count backward, by 2's, 100—2.

4. Count backward by 3's: 12—3; 30—3; 90—3.

5. Count backward by 5's; 200—5.

6. Abacus: Make on left side of abacus 8, 12, 18, 25, 31, 39, 44, 50.

Language:

1. Introduce more complicated "secret" languages than in Elementary tests, p. 53. For example: Disarrangement of words in a sentence (sent-mother-to-last-baker-my-the-some-me-night-to-bread-buy=My mother sent me to the baker last night to buy some bread); or inversion of letters in each word (eht sevael nrut der dna nworb ni nmutua= the leaves turn red and brown in autumn). This leads over to the next tests.

2. Introduce a simple cipher, f. i. representing each letter of the alphabet by the next following one (**b** for **a**, **c** for **b**, etc.). After explaining the cipher method, have child read and construct sentences like the following:

Nz gbuifs mpwft nf=My father loves me.

The task may be made more difficult by writing words together:

Uifxpnbodpplt=The woman cooks.

Following Directions:

Give child some direction which would involve three or four different activities in succession; e. g., tell the child to place a book on the desk; then to walk to the window, to open (or close) it, and then to bring the book back to you and open it on page 105.

Association:

1. Presentation of familiar object; child is asked to write down the names of other objects or ideas coming to his mind as suggested by the object presented, as fast as possible, in three minutes.

2. Same exercise, except that the name of the object is mentioned to the child without the object being shown.

3. Genus—Species: Tell a form of land; kind of building; occupation; game; exercise.

4. Part—Whole: Tell of what the following is a part: a seam, a handle, a wall, a signature, a title.

5. Opposites: What is the opposite of bad, inside, slow, short, little, soft, dark, sad, true, equal, poor, well, sorry, thick, full, many, above, master, friend, to love, to sleep.

6. Qualities: Tell something that is high, soft, cold, new, smooth, yellow, round, clean, bent, wooden, glass, deep, empty, narrow, loose, sour, level, stale, oily, heavy, sandy.

Reading and Composition:

1. Reading of graded passages from some good series of readers, Sixth to Eighth, and of simple classics. Note facility, expression, understanding, etc.

2. Have the child write a reproduction of the passage read. (This exercise must not be confused with the word picture test).

Concentration:

Striking out 100 A's scattered thru block of letters.

By repeating this test 10 times in succession the effect of habit, practice and fatigue can be studied. Accuracy and speed are noted.

Method of Thinking:

Presentation of familiar object (knife, fork, penny, ball, flower, etc.): Child tells what primary association is formed —that is to say, of what the child thinks first when object is seen (idea of object as such, or sound of spoken word, or image of written or printed word, its spelling, letter forms, color of object, etc.)

Judgment (Experience):

1. Muscular Illusions:
   a. Pencil point between twisted fingers.
   b. Eight weights, of different sizes, but equal weight.
2. Optical Illusions (cf. James, Psychology, II, 232, ff.)
3. Connect 100 dots (½ in. apart, arranged in ten rows of 10 each) with continuous line without touching the same dot twice or crossing over. Repetition introduces effect of habit, practice and fatigue. Time.
4. Simple picture cut into 12 pieces of different forms. Time.
5. Set of cubes presenting six different pictures. How many are recognized and put together? Time.
6. Jig-saw puzzle of not more than 25 pieces. Time.
7. Formboard.
8. The solving of some puzzle or riddle, e. g.: Several geese are walking along the road in single file. One walks ahead of two, one walks behind two, and one walks in the middle. How many geese?

9. A practical question, as to what the child would do under certain circumstances, e. g., if he would see another child walking unconsciously near a steep precipice where another step might cause it to fall off, and yet if frightened by some sudden call the child may be in the same danger.

10. A practical test, such as placing a box so near the edge of the table that an inadvertent motion would send it to the floor; or, the playing of some game of cards in which judgment is needed, like "building" in Casino, or a game of Hearts.

Games like Twenty Questions, City and Country, etc., also offer valuable opportunities for tests of judgment, concentration, etc.

Motor Co-ordination:

1. Striking 100 dots with pencil successively. Dots are ½ in. apart, arranged in ten rows of 10 each.

2. Striking graded pegs with metal pencil (electric contact).

Note accuracy and speed. Repeat 10 times for effect of habit, practice and fatigue.

Expression:

1. Make wooden box, using hammer and saw, or knife, nails, glue, etc., from model.

2. From scraps of material (pieces of tin, block of wood, cigar box, spools, package handles, cardboard, wire, twine, etc.), construct some object or model, such as your fancy will dictate, using any tools you want or have.

3. Make working drawing for cube or small basket on cardboard; then cut out and construct.

4. Model in clay some motive of ornament.

5. Paint in water color some flower, vase, landscape, from memory, or by way of invention and composition.

6. Draw free-hand a man, a horse, a house, from memory. At this stage some specific man (father), or horse (the grocer's or the family horse), or house (residence or schoolhouse) should form the task.

7. Draw an oblong pond, with trees on opposite sides, front and back.

8. Shoemaker and carpenter, as in Elementary Test.

9. Child to sing a song he knows.

10. Playing on whatever instrument he can play.

11. Recitation of memorized piece of poetry or oratory.

Aesthetic:

1. Color preference.

2. Favorite flower.
3. Favorite song or musical piece.
4. Favorite poem or story, literary piece, author.

Advanced Period

PHYSIO-PSYCHOLOGICAL TESTS:

Visual Memory:

1. Momentarily presenting sheet containing rectangles of same size, but different colors and in different postions. Upon withdrawing sheet, child is to draw a diagram of the positions and write the names of the colors in their proper places. Repeat three times.

2. Same test as under (3) Intermediate. Children of this age should be able to repeat Fifth Series without mistake.

3. Exposing nonsense syllables in same way as familiar words in previous test:

First Series: Juc, **ver,** dil, sec, nis.
Second Series: Lab, noh, **ris,** lup, fim, **tup.**
Third Series: Zit, cul, gip, **fod,** kan, mas, zam.
Fourth Series: Arb, cul, tab, sar, **sal,** qof, ler, hek.
Fifth Series: Bom, wes, rar, nis, zec, lup, **tup,** noh, hek, lab.

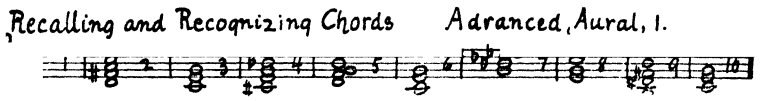
4. Estimates of distances, as to comparative length. Younger pupils may be able to say that one distance is greater than the other; older ones may estimate actual length in feet, rods, miles.

5. Estimate of heights or various objects. Same method as in 4.

6. Estimate of sizes of various objects. Same as before.

Aural:

1. Recalling and recognizing chords (selected chords).



2. Memory of Word Picture, as in (6) Intermediate:

EARLY DUTCH FIREPLACE SCENE

To have seen a numerous household assembled round the fire, one would have imagined that he was transported back to those happy days of primeval sim-

plicity which fleet before our imaginations like golden visions. The whole family, old and young, master and servant, black and white; nay, even the very cat and dog enjoyed a community of privilege, and each had a right to a corner. Here the old burgher would sit in perfect silence, puffing his pipe, looking in the fire with half-shut eyes, and thinking of nothing for hours together; the good wife, on the opposite side, would employ herself diligently in spinning yarn or knitting stockings, listening with breathless attention to some old crone of a negro who was the oracle of the family, and who, perched like a raven in the corner of the chimney, would creak forth for a long winter afternoon a string of incredible stories about New England witches, grisly ghosts, horses without heads, and hair-breadth escapes and bloody encounters among the Indians. (Irving).

Tactile:

Single and double needle-points, distance down to 1/8 in. Also use algometer.

Smell:

Graded extracts as in previous tests. Also present Aqua destillata for contrast, and for test of suggestion.

Taste:

Graded solutions, as before. Also use pure water.

Location:

Memory; visualization; draw ground floor of a familiar building.

MENTAL TESTS:

Association:

1. Genus—Species: Tell a virtue, a state of mind, a state of body, a purpose and an ideal.

2. Part—Whole: Of what is the following a part: a teacher, a soldier, a sailor, a word, a paragraph?

Language:

1. Let pupil invent his own cipher and use it with experimenter. Experimenter will explain method of deciphering.

2. Let child decipher a simple cipher message, such as was introduced in the Intermediate Tests.

Reading:

A selection from some classic author.

Composition:

Have pupil write his autobiography.

Concentration:

100 A's.

Method of Thinking:

Same as under Intermediate.

Judgment (Experience):

1. Muscular and optical illusions. Same as under Intermediate (1 and 2).
2. Connecting 100 dots.
3. Jig-saw puzzles of graded number of pieces.
4. Geometric puzzles, like the Anchor puzzle.
5. Puzzle or Riddle, like under Intermediate (8).
6. Practical question, like under Intermediate (9).
7. A game of checkers, chess, Twenty Questions, etc.

Motor Co-ordination:

1. Striking graded pegs with metal pencil (electric contact).
2. Threading fine needles.

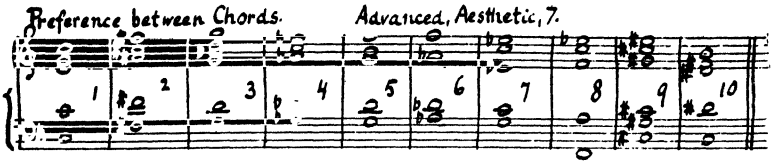
Expression:

1. Model some ornament.
2. Paint from still life.
3. Draw, or paint, some landscape, from nature, or by way of composition.
4. Draw, from memory, or from model (living model), a portrait, or life study.
5. Some song with accompaniment.
6. Playing on some instrument.
7. Recitation of some memorized poetry or oratory.
8. Spontaneous discussion of some familiar theme, as e. g., the War of the Revolution and its Causes; Fashions of the Day; or, the Advantages and Disadvantages of Traveling.

Aesthetic:

1. Color preference.
2. Favorite flower.
3. Favorite song or musical piece.
4. Favorite poem, story, literary piece, author.
5. Selection of most pleasing oblong (Golden Section).

6. Selection of most pleasing ellipse (Golden Section).
7. Preference between chords.



Schedule 8

Diagnosis—Classification

This blank offers opportunity for recording diagnostic remarks summing up the entire case, by different examiners. As the study of exceptional children is still a new field of research, it can hardly be expected to obtain in every instance an agreement of opinions, and arrangement is therefore made for an expression of different viewpoints. Out of a discussion of these viewpoints may be elaborated a more or less exact and complete diagnosis, as a basis for further study of the problem, and as an approximate formulation of the individual case.

National Association for the Study and Education of Exceptional Children

Diagnosis Classification

NAME OF CHILD.....BORN.....

Date:	Diagnostic Remarks:	Name of Examiner:

Appendix

Tentative Classification of Exceptional Children

Suggested by Maximilian P. E. Groszmann, Pd. D.
Plainfield, N. J., May, 1909

A. NORMAL CHILDREN.

(Those who are in accord with the norm, or standard, of human nature.)

1. Typical Children.

(Those who conform to the average human type, representing the present stage of civilization.)

2. Pseudo-atypical Children.

(Those who only seemingly deviate from the average human type.)

a. Children Whose Progress in School was hindered by:

1. Change of schools;
2. Slower rate of development, without atypical retardation;
3. Temporary illness;
4. Slight physical difficulties, such as lameness and minor deformities, slightly impaired vision and hearing, adenoid vegetations, etc. This last class is similar to Group 2, of the Pathological Classes, Sub-normal Group; only that it represents **retarded** instead of **arrested** development.

b. Children of Unusually Rapid Development, without genuine (pathological) precocity.

c. Children Who are Difficult of Management. Naughty, troublesome, spoiled children, without genuine perversity.

d. Neglected Children

Pseudo-atypical children may be rapidly restored to normal equilibrium.

Atypical Children Proper.

(Those who deviate from the average human type.)

Hereditary, congenital, and environmental causes.

a. Neurotic and Neurasthenic Children.

Over-stimulation and precocity. Genius. Irritability. Excessive imagination and lack of mental and emotional poise. Hysteria. Dementia Praecox. Lack of concentration. Negativism. Contrariness. Perverse tendencies. Sexual precocity. Fears and obsessions. Defective inhibition. Tic. Motor disturbances. Vasomotor, sensory, and trophic disturbances.

b. Children of Pathologically Retarded Development.

Impaired conceptual ability due to retarded brain development. Physiological retardation of growth rate. Special physical causes: Chronic catarrh, chronic difficulties of nutrition, serious chronic affections of vision and hearing, venereal infection, etc.

Any of these classes, thru neglect or adverse environmental influences, may drop down in the scale of development, into lower classes. In other words, the individuals composing them, may lose their normal characteristics and degenerate into permanent defectiveness. It is a matter of potentials and their direction. On the other hand, having the normal potentials, atypical and pseudo-atypical children may be restored to normal equilibrium.

B. SUBNORMAL CHILDREN.

(Those whose potentials are incomplete, or underdeveloped.)

1. Defective Children.

Hereditary and congenital causes.

Epileptics, blind, deaf-and-dumb, deformed, paralytics, crippled, etc.

These children can never attain the perfect norm of human nature, as their potentials are incomplete.

2. Children of Arrested Development.

(Acquired abnormality or defectiveness.)

a. Pathological Classes.

Children born apparently normal, but having their development checked by:

1. Hereditary causes, manifesting themselves at certain developmental periods.
2. Special causes, as diseases, fright, accidents, etc.

The arrest of development may be only partial, as in the case of children deformed by accident; then, there will be mainly a condition of incompleteness, as in Group 1, Defective Children.

b. Submerged Classes.

Environmental influences have prevented them from attaining full maturity.

Children of arrested development will remain essentially subnormal, no matter how well they may be educated within their limits.

3. Children of Rudimentary or Atavistic Development.

The primitive type, representing mental, moral and social instincts and activities on the savage, barbarian, or generally uncivilized level.
Primitive races.
Atavistic individuals. These approach the abnormal level. They represent a reversion of instincts and capacities in spite of being born from apparently normal parents.

GROUPS A AND B CONSTITUTE HUMAN SOCIETY

C. ABNORMAL CHILDREN.

(Those who deviate from the norm, or standard, of human nature.)

Hereditary and congenital causes.

Cretins, cretinoids; microcephalics, macrocephalics, hydrocephalics, idio-imbeciles, imbeciles and feeble-minded; insane; criminals; moral imbeciles and moral perverts.

Abnormal children stand outside of human society and require custodial or institutional care permanently.

DEFINITIONS.

(Standard Dictionary.)

Norm: A rule or authoritative standard.
Normal: According to an established law or principle; conformed to a type or standard; regular or natural.
Abnormal: Deviating from the natural structure, condition, or course; unnatural.
Type: One of a class or group of objects that embodies the characteristic of the group or class; an example, model, representative, or pattern, as of an age, a school, or a stage of civilization.
Typical: Having the nature or character of a type.

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NATIONAL ASSOCIATION FOR THE STUDY AND EDUCATION OF EXCEPTIONAL CHILDREN

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b. AN INFORMATION BUREAU for the benefit of educational and social workers, legislative bodies, medical specialists, parents, and others interested in the problem.

c. A PUBLICITY BUREAU for the distribution of society proceedings, scientific monographs, reports, and other printed matter of information, also the arrangement of lecture courses, round tables, etc.

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